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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/001,235	11/13/2001	S. Thomas Autrey	23-59243	9274

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EXAMINER

ROSENBERGER, RICHARD A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/001,235

Applicant(s)

AUTREY ET AL.

Examiner

Richard A Rosenberger

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 6/9/2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2877

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al (US 4,436,428).

Watanabe shows, in figure 6 a photoacoustic spectroscopy sample array (1 × 2) comprising a substrate with well therein (at 57, 58) holding samples (64, 65) and at least one acoustic detector (76, 78) acoustically coupled to the sample array for receiving acoustic signals from the samples. Watanabe mentions that the samples may be illuminated either simultaneously or sequentially (column 5, lines 58-60).

In figures 12 and 13, discussed in column 1, lines 6-8 and 12-16, teaches having a sample contained within an "affinity mass" in such a photoacoustic arrangement. It would have been obvious to hold the sample of the embodiment of figure 6 of the reference with the porous structure discussed in figures 12 and 13 of the reference.

It would have been obvious to have a reflective layer behind the sample because it is known in the art that the response from the absorption on the light beam is dependent upon the path length through the sample, and it is known that

placing a reflective coating behind a sample can reflect light passing through the sample back into the sample, thus increasing the optical path length through the sample, and thus increasing the signal strength.

Watanabe et al uses a particular transducer to detect the generated acoustic waves. It would have been oblivious to use other known transducers; it is the detection of the acoustic waves, and not the particular transducer structure, which is functionally and operationally important.

While Watanabe et al shows a small ( $1 \times 2$ ) array, it would have been obvious to add more sample chambers to the embodiment of figure 6 of that reference.

3. The remarks filed 9 June 2003 have been considered but have not been found to be persuasive.

The instant claims call for the use of at least one "acoustic detector". The signal produced by the Watanabe et al reference is an acoustic signal and thus the detectors of Watanabe et al are acoustic detectors; the fact that Watanabe et al refers to the device disclosed therein as a "photoacoustic" device is testimony to that fact. The remarks appear to argue that what is meant by the phrase "acoustic detector" in the claims is something other than the detector of the Watanabe reference; however, the claims themselves do not distinguish over the detectors of the Watanabe et al reference, which are acoustic detectors.

It is noted that some of the instant claims, such as instant claim 40 , call merely for “utilizing photoacoustic spectroscopy”. Watanabe et al repeatedly and consistently refers to the systems disclosed therein as photoacoustic systems using photoacoustic cells doing photoacoustic spectroscopy. Thus, even were the argument that “photoacoustic detector” somehow distinguishes over the Watanabe et al reference persuasive, the claims which call for no more than “utilizing photoacoustic spectroscopy” do not, and cannot, distinguish.

Further, both the instant specification and the Watanabe reference note that the acoustic signals in known photoacoustic spectrometers can be detected by a microphone. Watanabe et al mentions that the “flowmeter” acoustic detector of that reference is used “[I]nstead of using a microphone” (column 5, lines 2-3), which teaches that the two are known and recognized equivalents. See also the instant specification, page 3, line 4. The fact that Watanabe et al prefers the flowmeter to the microphone for the particular purposes there at hand does not remove the microphone or the recognition of the equivalence of the two from the prior art, or teach away from the use of microphones in embodiments in which ambient noise is less of a problem or is otherwise taken care of.

Watanabe et al mentions that the “flowmeter” acoustic detector of that reference is used “[i]nstead of using a microphone” (column 5, lines 2-3), which teaches that the two are known and recognized equivalents. The fact that Watanabe et al prefers the flowmeter to the microphone for there particular use there at hand


does not remove the use of a microphone or the recognition of the functional equivalence of the two from the art.

4. Papers related to this application may be submitted to Group 2800 by facsimile transmission. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The fax number is (703) 308-7722.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. A. Rosenberger whose telephone number is (703) 308-4804.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

R. A. Rosenberger  
18 August 2003



Richard A. Rosenberger  
Primary Examiner